

5th International Symposium on Non-Surgical
Contraceptive Methods of Pet Population Control

ACC&D
Alliance for Contraception
in CATS & DOGS

Approaches with Potential for Nearer-Term Impact



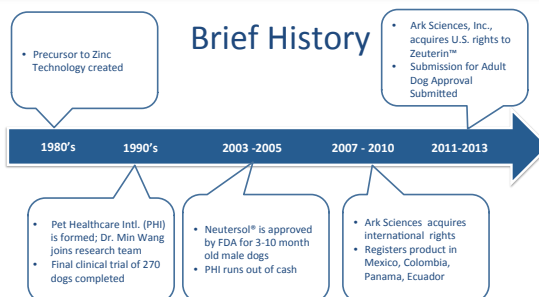
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Master Trainer
June 22, 2013

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Brief History



- 1980's**
 - Precursor to Zinc Technology created
- 1990's**
 - Pet Healthcare Intl. (PHI) is formed; Dr. Min Wang joins research team
 - Final clinical trial of 270 dogs completed
- 2003 - 2005**
 - Neutersol® is approved by FDA for 3-10 month old male dogs
 - PHI runs out of cash
- 2007 - 2010**
 - Ark Sciences, Inc., acquires U.S. rights to Zeuterin™
 - Submission for Adult Dog Approval Submitted
- 2011-2013**
 - Ark Sciences, Inc., acquires international rights
 - Registers product in Mexico, Colombia, Panama, Ecuador

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Why Zeuterin™ Has Current or Near-Term Potential

In the U.S., about 35% of male dogs are intact – (12.25 million)*

- Safe and effective
- Permanent and irreversible
- Less recovery time
- Reduces testosterone and prostate size
- Client acceptability

*Provided by the ASPCA. These estimates are compiled from APPA and AVMA data.

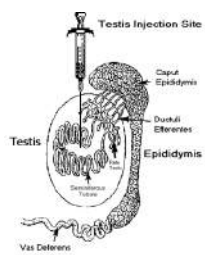
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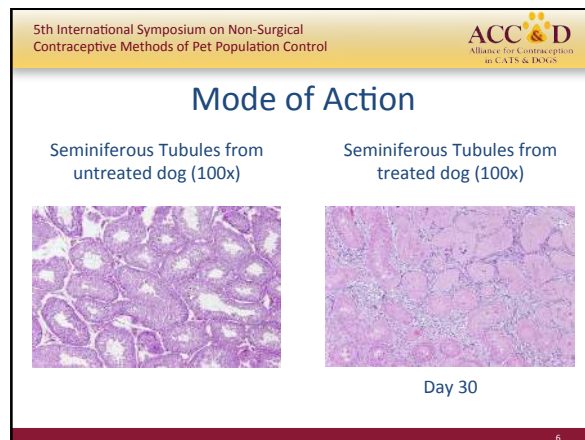
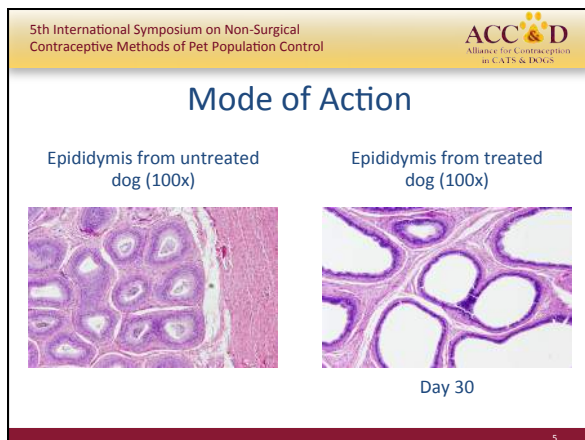
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Mode of Action

- Atrophy of Seminiferous tubules, Epididymis, Leydig cells
- Atrophy of prostate (52%)
- Scar tissue formation which prevents movement of sperm from the seminiferous tubules to the epididymis



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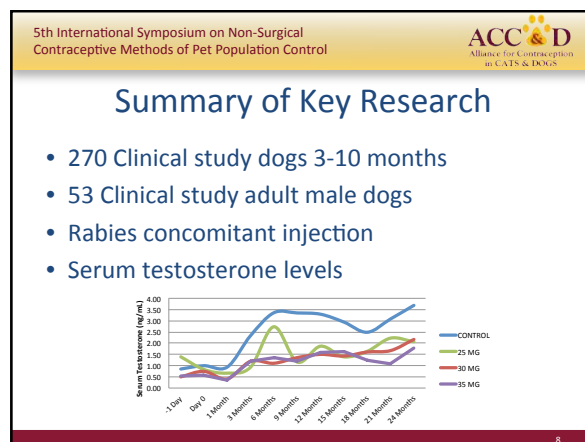
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Current Status of Zeuterin™

- U.S. FDA Approved
 - New manufacturing facility currently being added (Oct 2013)
 - Adult dog label submitted to FDA for review (Nov 2013)
- Internationally
 - Approved in Mexico, Colombia, Turkey, Bolivia, Panama
 - Pending in India, Russia, Brazil, Argentina, South Africa

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Summary of Key Research

- Underway
 - Larger testicle study (Greater than 27mm)
 - Behavior analysis of Zeuterin™ treated dogs
 - Long-term health benefits
 - Male cats
- Planned
 - Younger dogs (Less than 3 months of age)
 - Additional species (Kangaroos, monkeys, rabbits, etc.)

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Target Markets

- Shelters and municipalities
- High-volume spay neuter clinics
- Private practice veterinarians
- Corporate veterinary practice and charter clinics
- Vaccination clinics

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Commercialization Status



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Challenges

- Label limitations
 - Age
 - Size
- Changing perception of behavior benefits from surgical castration
- Logistical challenge of certifying veterinarians on injection procedure

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Summary: 3 Key Takeaways

1. Increased efficiency in sterilization procedure
2. Benefits of maintaining testosterone levels
3. Increased sterilization rates of dogs